

AMENDMENTS TO THE SPECIFICATION

Page 1, lines 4 to 12:

This application is a continuation-in-part of United States Patent Application Serial No. 09/283,535, filed April 1, 1999, and entitled "Compositions, Systems, And Methods For Arresting or Controlling Bleeding or Fluid Leakage in Body Tissue," now United States Patent No. 6,458,147, which is itself a continuation-in-part of United States Patent Application Serial No. 09/188,083, filed November 6, 1998 and entitled "Compositions, Systems, and Methods for Creating in Situ, Chemically Cross-linked, Mechanical Barriers," now United States Patent No. 6,371,975.

Page 4, lines 26 to 35, and page 5, lines 1 to 3:

Fig. 1 diagrammatically shows the basic formative components 10, 12, and 14 of a solid biocompatible material composition 16, which is shown in Figs. 2 and 3 after the components 10, 12, and 14 have been mixed. The composition 16 is well suited for closing a vascular puncture site, e.g., following a vascular access procedure. The formative components 10, 12, and 14 can be mixed in a liquid state while being delivered through a transcutaneous catheter 30 to the puncture site 32 (see Fig. 2). Upon mixing, the formative components 10, 12, and 14 react to transform in situ from the liquid state, to a semi-solid (gel) state, and then to the biocompatible solid state, in a process called "gelation." In the solid state, the composition 16 takes the form of a non-liquid, three-dimensional network (as diagrammatically shown in Fig. 3).

Page 15, lines 8 to 22:

This reaction with protein amino groups is not the only reaction that the PEG reactive ester can undergo. It can also react with water (i.e., hydrolyze), thereby losing its ability to react with protein. For this reason, the PEG reactive ester must be stored dry before use and dissolved under conditions where it does not hydrolyze rapidly. The storage container for the PEG material desirably is evacuated by use of a vacuum, and the PEG material is stored therein under an inert gas, such as Argon or Nitrogen. Another method of packaging the PEG material is to lyophilize the PEG material and store it under vacuum, or under an inert gas, such as Argon or Nitrogen.

~~Lyophilization~~ Lyophilization provides the benefits of long term storage and product stability, as well as allows rapid dissolution of the PEG material in water.

Page 17, lines 4 to 16:

Albumin itself contains amino, carboxyl, and other groups, which can ~~reversible~~ reversibly react with acid and base. That is, albumin itself is a buffer. Also, due to the many different buffering groups that albumin possesses, albumin (e.g., Plasbumin) can buffer over a relatively broad pH range, from below pH 6 to over pH 10. However, it has been discovered that albumin lacks the buffering capacity to, by itself, counterbalance the additional acid (H⁺) that is produced as a result of hydrolysis and the PEG-albumin cross-linking, given the PEG concentrations required to meet the therapeutic objectives for the composition. Thus, in the preferred embodiment, a buffer material 28 must be added to the albumin to provide the required buffering capacity.

Page 22, line 24 to page 23, line 8:

Typically, the catheter 30 is introduced along a guide wire 36 partially into the blood vessel (see Fig. 2). The guide wire 36 will have been previously introduced subcutaneously, through a wall of the blood vessel 42, to guide passage of a desired therapeutic or diagnostic instrument into the blood vessel, e.g., to perform coronary angioplasty. After performing the intended procedure, the therapeutic or diagnostic instrument is withdrawn, leaving the guide wire 36. The catheter 30 is introduced along the guide wire 36 to the puncture site 32. For reasons that will be explained in greater detail later, the diameter of the catheter 30 is preferably sized to seal, but not enlarge, the tissue track 34.

In the illustrated embodiment (see Figs. 2 and 4), the distal end of the catheter 30 carries a balloon 38. When the balloon 38 is expanded within the blood vessel 42 (as Fig. 2 shows), back pressure on the catheter 30 serves to locate (by tactile pressure) the distal nozzles 40 outside the puncture site 32 (see Fig. 4). The composition 16 is introduced through the nozzles 40.

Page 27, lines 17 to 20:

At the end of the Localized Compression Stage (see Fig. 8 6), the composition 16 has formed. Hemostasis has been achieved. The individual is free to ambulate and perform normal day-to-day functions.